

Compliance Training

Part of the Eagle Associates Healthcare Professional Training Series®

Tuberculosis Infection Control

What is the Need for TB Infection Control?

The CDC published guidelines to control the spread of TB infection in 1994, and they were implemented widely in healthcare facilities throughout the United States. The result of this effort has been a decrease in the number of TB outbreaks in healthcare settings reported to the CDC, and a reduction of healthcare-associated transmission of TB to patients and healthcare workers.

The lessened risk for TB led the CDC to implement new guidelines in 2005 that reflect changes for the healthcare setting. The new guidelines continue an emphasis to maintain the momentum gained over the preceding decade to avert another TB resurgence, and to eliminate the lingering threat

THIS TRAINING SESSION IS RECOMMENDED FOR:
All healthcare workers (clinical and administrative).

Training Objectives

Annual Training for *Mycobacterium tuberculosis*

The objectives in this month's training for *Mycobacterium tuberculosis* are to provide an understanding of:

1. The need for TB infection control;
2. The modes of transmission for TB;
3. Latent TB infection and TB disease;
4. Signs and symptoms of TB disease;
5. Current CDC guidelines for screening of healthcare workers; and
6. Patient management for TB.

Interactive Training Reminder

Compliance Training is an interactive training program in which you can address questions with other staff members or supervisors to obtain answers and clarification for situations in your work setting.

Write down any questions that you have about the training for Tuberculosis Infection Control and address them with your Safety Training Coordinator or supervisor. The communication with your Safety Training Coordinator will provide you with an interactive training environment, and ensures a clear understanding for application of the training information in your practice.

to healthcare workers. The bottom line is that while a good job has been done, now is not the time to become lax and allow the disease to regain its lost foothold.

Mode of Transmission for TB - In simple terms, TB is a disease caused by germs that are spread from one person to another through the air. This has also given the disease the informal label as an airborne pathogen. TB usually affects the respiratory system, but it can also affect other parts of the body, such as the brain, the kidneys, or the spine. The worst outcome for an infected patient is that, without treatment, it can cause death.

TB germs are expelled into the air when a person with TB disease of the lungs or throat coughs, sneezes, speaks, or sings. These germs can remain suspended in the air for several hours, depending on the environment and available air circulation. Persons who breathe in the air containing these TB germs can become infected with TB.

According to the CDC, TB is **not** spread by shaking someone's hand, sharing food or drink, touching bed linens, sharing toothbrushes, or kissing.

Latent TB Infection and TB Disease - Latent TB infection (LTBI) may also be referred to as a dormant or inactive form of TB, while TB disease refers to an active TB infection.

People with LTBI have TB germs in their body. A person with LTBI does not have any signs or symptoms of TB disease, and cannot spread the germs or infection to others. The CDC identifies that people with LTBI have a 90% probability that it will never manifest into an active infection or TB disease.

There does, however, remain a 10% chance of LTBI progressing to an active infection, which will produce common signs and symptoms, as well as make it possible to spread the infection to others.

People with an active infection or TB disease become ill from the TB germs that are active, meaning they are multiplying and destroying tissue on the person's body. As previously stated, they will begin to exhibit signs and symptoms of an active infection (see signs and symptoms below). In most cases, TB disease can be treated with drugs.

One risk with TB is that there are forms of the disease that are resistant to drug therapy, and therefore present a greater risk for the patient and people who may have contact with him/her. This form of TB is known as multidrug-resistant TB (MDR TB). It is resistant to first-line drugs used to treat persons with TB. Resistance to anti-TB drugs can occur when these drugs are misguided or mismanaged (i.e., when patients do not complete their full course of treatment).

If you have contact with a person who has LTBI, there is no need for testing or other preventive measures. However, contact with a person who has an active infection may require testing to ensure you have not become infected.

Signs and Symptoms of Active Tuberculosis - According to the CDC, one of the most critical risks for healthcare workers and the transmission of TB comes from patients with undiagnosed TB who are not promptly handled with appropriate precautions. A persistent or chronic cough that has lasted for three or more weeks is the most common symptom for individuals that may have an active TB infection. Other symptoms may include:

- Fever - one of the earliest symptoms that will be a minimal to moderate temperature elevation occurring in the late afternoon or evening, usually accompanied by a feeling of euphoria and well-being. Temperature elevation

- may reach 103° F or higher as the disease progresses;
- Night Sweats - the daily rise in body temperature is reversed at nighttime with accompanying diaphoresis;
- Weight Loss - minor weight loss with anorexia early in the disease with increased weight loss, fatigue, and irritability as the disease progresses; and
- Chronic productive cough with large amounts of purulent, greenish-yellow sputum.

The level of suspicion for TB will vary by geographical location, and will depend upon other characteristics of the community served by the practice. TB testing is the primary step for identifying whether an individual has been exposed to TB, and determines any necessary follow-up testing and evaluation.

TB Screening for Healthcare Workers - Current CDC guidelines require TB skin testing (TST) for all healthcare workers at each place of new employment. Serial or annual testing is subject to the risk level and/or operational requirements of an individual practice. Medical and dental practices will generally be either low or medium risk. The main difference between the two risk classifications is that a low risk practice will have treated fewer than 3 patients with TB disease (active infection) in the last twelve months, while a medium risk practice will have treated 3 or more. Medium risk practices are required to perform serial or annual skin testing on all employees, while a low risk practice can elect not to perform such testing.

Most practices will fall into the low risk level for TB. A practice may decide to continue serial or annual testing based upon geographical location and/or the determination of the providers in the practice. It should be noted that staff members providing patient services in an institutional setting (i.e., hospital, nursing home, etc.) may be required to have serial testing, due to the higher risk level of the institution.

Baseline TST screening is required for all new hires in a healthcare facility. New hires with documentation of a previous positive skin test will not be tested, but will complete an annual symptom check (see annual symptom screening below). The baseline testing requires a two-step TST for new hires. If a new hire has documentation of a negative TST within the last 12 months, the employer will use the documentation as the first test, and then perform a single test on the new employee. Lack of documentation for a TST within the last 12 months would require the employer to perform a

two-step baseline. A single baseline test is required even if the new hire has had a two-step test recently at another place of employment.

A common question with TB testing is whether it should be conducted for pregnant staff members, and stems from a concern for possible contraindications with skin testing. In previous years, the CDC has been cautious regarding TSTs for pregnant staff. The new CDC guidelines state that *“pregnant healthcare workers should be included in initial and serial testing (if serial testing is indicated for a facility) as part of an infection control program because no contraindications for skin testing exist.”* Current guidelines issued by the American College of Obstetricians and Gynecologists (ACOG) emphasize that *postponement of the diagnosis of infection with M. tuberculosis during pregnancy is unacceptable.* Given the information from the CDC and ACOG, pregnant staff members should be included in the practice’s TB testing process.

Annual Symptom Screening - Employees who have had a previous positive skin test will need to complete an annual symptom screening, even if the practice does not perform serial or annual testing on the remaining staff. An annual symptom screening is a simple questionnaire to identify whether the individual has any current signs or symptoms of active TB infection.

Annual symptom screening is performed to ensure that a latent TB infection has not progressed to active disease. According to the CDC, healthcare workers who become infected with *M. tuberculosis* and have latent infection run approximately a 10% risk for developing active TB during their lifetimes. This risk is greatest during the first two years after infection. The actual probability of a person who is exposed to *M. tuberculosis* becoming infected depends primarily on the concentration of infectious droplet nuclei in the air and the duration of exposure to that air.

Screening Patients - According to the CDC, recognizing the signs and symptoms of active TB is the first step in managing the exposure risk for your practice. Administrative and clinical staff members with patient contact must be trained to identify patients who may have infectious TB.

Administrative personnel who are responsible for receiving patients into the practice should be trained to consult with clinical personnel on the need to implement policies for managing patients who exhibit signs and symptoms of TB.

Clinical personnel can then evaluate the situation, and make the decision on how to properly proceed with the patient and his/her scheduled office visit.

A suspicion of TB should be considered for a patient with a persistent cough that has lasted for three or more weeks or other symptoms such as bloody sputum, night sweats, weight loss, anorexia or fever. The level of suspicion for TB will vary by the characteristics of the community served by the practice.

Reception personnel should be trained to simply ask coughing patients whether they have any of the signs or symptoms listed above. If a patient, for example, indicates that his/her cough has been persistent, and he/she is experiencing heavy night sweats and/or rapid weight loss, then a nurse or other clinician should be called to evaluate the patient further. The CDC states that screening or evaluating patients is a front-line measure in limiting exposure for the practice.

Patient Management - The CDC recommends that practices have a protocol or procedure for managing patients suspected to have TB. This procedure will take a different route if your practice does not perform TB testing. Essentially, practices that do not perform TB testing on patients would refer suspected patients back to their primary care provider for testing.

The following steps have been taken from the CDC final guidelines, with some modification to ensure relevance to the practice setting.

- Provide the patient with a surgical mask to wear while in the practice. Give him/her instruction to wear it throughout the visit, with additional instructions to cover his/her mouth and nose with a tissue when coughing or sneezing. Surgical masks are designed to prevent the individual’s respiratory secretions from entering the air.
- Patients should be isolated or separated from other patients and staff as quickly as possible. In some facilities, there is the availability of special isolation rooms. For the average practice, it is advisable to designate a specific exam room (one near an alternate exit from the practice to keep the patient from traveling back through your waiting room and potentially exposing other patients).
- Appropriate staff should be immediately notified in order to expedite the patient’s treatment. It should be a priority to complete the patient’s treatment as soon as possible.

Compliance Training Test

NAME: _____ DATE: _____

SIGNATURE: _____ STAFF POSITION: _____

Topic: Tuberculosis Infection Control

There are 10 questions to the test for Tuberculosis Infection Control. Return your test to your Safety Training Coordinator or supervisor upon completion. Individual tests will be maintained with the training log to document participation and understanding of the training information. There is no pass or fail grade to the test. Review the training information to find the correct answers to any questions that may have been missed. Individual tests will be maintained with the training log to document completion of training.

Select One 1

TB can be spread by sharing food and drink.

T **F**

Select One 2

In simple terms, TB is a disease caused by germs that are spread from one person to another through the air.

T **F**

Select One 3

The CDC recommends that practices have a protocol or procedure for managing patients suspected to have TB.

T **F**

Select One 4

TB germs are expelled into the air when a person with TB disease of the lungs or throat coughs, sneezes, speaks, or sings.

T **F**

Select One 5

People with LTBI have TB germs in their body, and will spread the disease to others.

T **F**

Select One 6

Multi drug resistant TB (MDR TB) is resistant to first-line drugs used to treat persons with TB.

T **F**

Select One 7

Baseline TST screening is required for all new hires in a healthcare facility.

T **F**

Select One 8

A suspicion of TB should be considered for a patient with a persistent cough that has lasted for three or more weeks or other TB symptoms.

T **F**

Select One 9

You may omit baseline TST for employees who have recently had a two-step TST at another facility/ employer.

T **F**

Select One 10

Employees who have had a previous positive skin test will need to complete an annual symptom screening.

T **F**